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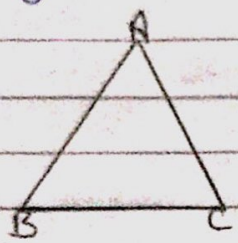
Bhagirathi Bal Shiksha Sadan Sec. School
Class - IV, Subject - Maths, Exercise - 11.3 (Geometry)

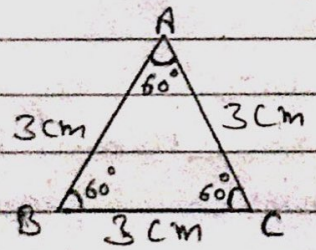
Triangle :—

A triangle is a closed figure having three sides, three vertices and three angles.
ABC is the triangle.

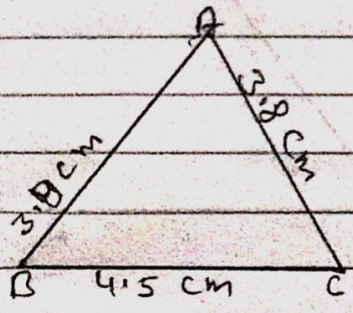


Types of triangles: The types of triangles are;

1. Equilateral triangle: All sides and all angles are equal. Each angle of triangle is 60° is called - equilateral triangle. Sides AB = BC = CA = 3 cm and ∠A = ∠B = ∠C = 60°.



2. Isosceles triangle: It is one in which two sides are equal is called isosceles triangle.



Sides AB = AC = 3.8 cm

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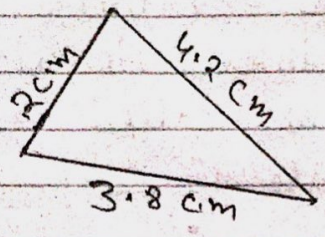
3. Scalene triangle : All the three sides of triangle have different lengths is called scalene triangle.
i.e., $AB \neq BC \neq CA$



Sum of angles of a triangle
The sum of all angles of triangle is 180° or 2 right angles.
The sum of 3 angles of a triangle.
$= \angle A + \angle B + \angle C = 90^\circ + 30^\circ + 60^\circ = 180^\circ$

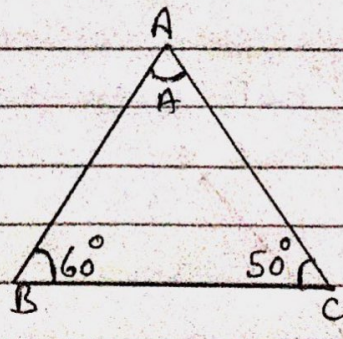
Example : Find the $\angle A$ of a triangle ABC.
Solution : From the fig., we see that $\angle B = 60^\circ$ and $\angle C = 50^\circ$. We know that,

$\angle A + \angle B + \angle C = 180^\circ$

$\angle A + 60^\circ + 50^\circ = 180^\circ$

$\Rightarrow \angle A + 110^\circ = 180^\circ \Rightarrow \angle A + 180^\circ - 110^\circ = 70^\circ$

Therefore, $\angle A = 70^\circ$



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Fill in the blanks.

a. The angle, which is less than 80° is called acute angle.

b. The angle, which is less than and greater than 90° is Obtuse angle.

c. Each angle of the triangle is 60° is an equilateral angle triangle.

d. The sum of all angles of triangle is 180°.

e. A triangle is polygon with 3 sides.

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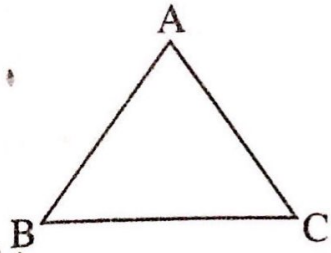
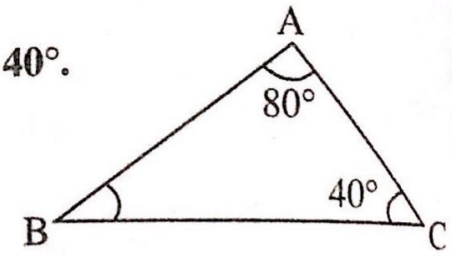
Let's Evaluate 11.3

1. **Draw a triangle of each type.**
   a. Scalene triangle b. Equilateral triangle c. Isosceles triangle

2. **From figure given write the following.**
   a. Write the sides of the triangle. AB, BC and CA.
   b. Write the vertices of the triangle. A, B and C
   c. Write the name of the triangle. ΔABC
   d. Write the angles of the triangle. $\angle ABC, \angle BCA, \angle CAB$



3. **Find the third angle of the triangle, if $\angle A = 80°$ and $\angle C = 40°$.**



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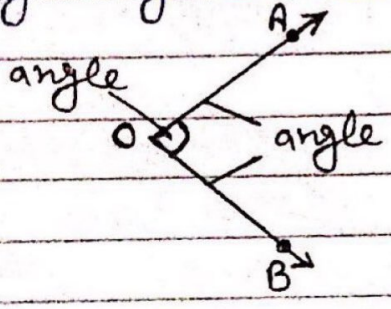
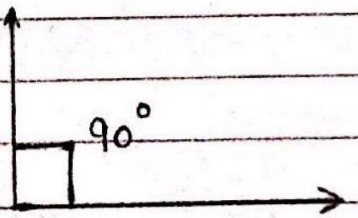
Bhagirathi Bal Shiksha Sadan Sec. School
Class-IV, Subject-Maths, Exercise-11.2 (Angles)

Angles :— A figure which is formed by joining two rays at their end points is called an angle. The point of intersection is called vertex, while two rays are called the arms of angle. The symbol of angle is ∠.



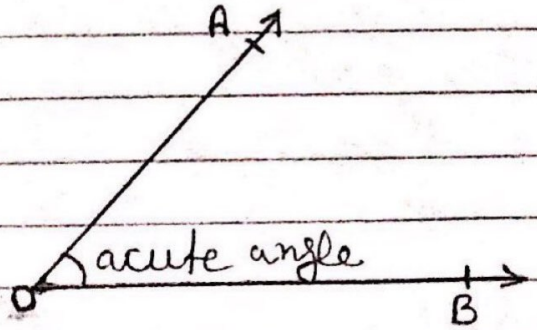
Types of angles

1. Right angle : The shape of angle that forms a square is called right angle. The measure of right angle is 90°.



2. Acute angle :

An angle i.e., less than 90° is called an acute angle. ∠AOB is an acute angle.



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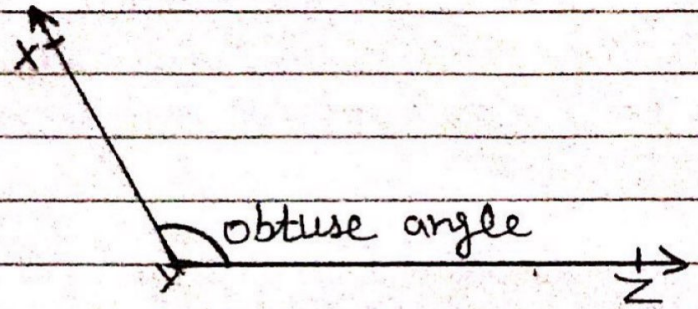
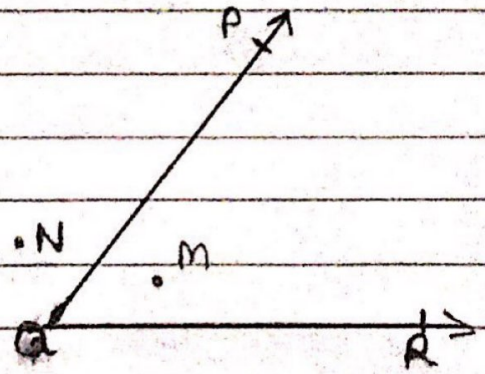
3. Obtuse angle: An angle i.e., greater than 90° and less than 180° is called an obtuse angle. ∠XYZ is an obtuse angle.



4. Straight angle: An angle that lies in a straight line and measure 180° is called straight angle. ∠AOB = 180°

5. Interior and Exterior of an Angle:

The coloured portion show the interior angle of ∠PQR. The portion out side the ∠PQR is exterior angle. Point M lies in interior region and N lies in the exterior region of angle.



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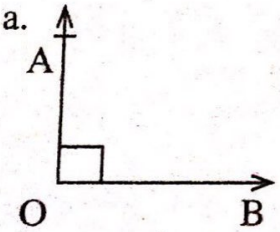
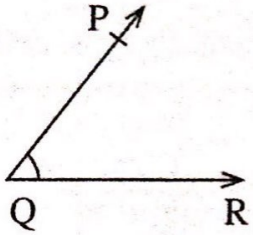
1. Write the arms, vertices and name the types of angle.

a.



AO and OB; ∠AOB

b.



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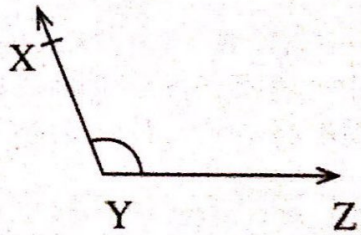
c.



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2. **Fill in the blanks.**

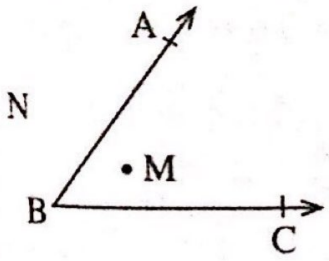
a. The angle *i.e.*, less than 90° is acute angle.

b. The angle *i.e.*, greater than 90° is obtuse angle.

c. The angle that lies in a straight line is called straight angle.

d. The measure value of straight angle is 180°.

3. **Find the interior and exterior points of angle from given figure.**



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